



## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2022-1154; Project Identifier MCAI-2022-00550-T; Amendment 39-22250; AD 2022-24-10]**

**RIN 2120-AA64**

**Airworthiness Directives; MHI RJ Aviation ULC (Type Certificate Previously Held by Bombardier, Inc.) Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), Department of Transportation (DOT).

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for all MHI RJ Aviation ULC Model CL-600-2C10 (Regional Jet Series 700, 701 & 702) airplanes, Model CL-600-2C11 (Regional Jet Series 550) airplanes, Model CL-600-2D15 (Regional Jet Series 705) airplanes, Model CL-600-2D24 (Regional Jet Series 900) airplanes, and Model CL-600-2E25 (Regional Jet Series 1000) airplanes. This AD was prompted by a report that the pressure switch gauge assembly for the cargo bay fire extinguisher container has the potential to display an incorrect pressure under certain environmental conditions. This AD requires replacing affected high rate of discharge (HRD) and low rate of discharge (LRD) pressure switch gauge assemblies for the cargo bay fire extinguisher container. The FAA is issuing this AD to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:**

*AD Docket:* You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1154; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

*Material Incorporated by Reference:*

- For service information identified in this final rule, contact MHI RJ Aviation Group, Customer Response Center, 3655 Ave. des Grandes-Tourelles, Suite 110, Boisbriand, Québec J7H 0E2 Canada; North America toll-free telephone 833-990-7272 or direct-dial telephone 450-990-7272; fax 514-855-8501; email [thd.crj@mhirj.com](mailto:thd.crj@mhirj.com); website [mhirj.com](https://www.mhirj.com).

- You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1154.

**FOR FURTHER INFORMATION CONTACT:** Gabriel Kim, Aerospace Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; email [9-avs-nyaco-cos@faa.gov](mailto:9-avs-nyaco-cos@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to all MHI RJ Aviation ULC Model CL-600-2C10 (Regional Jet Series 700, 701 & 702) airplanes, Model CL-600-2C11 (Regional Jet Series 550) airplanes, Model CL-600-2D15 (Regional Jet Series 705) airplanes, Model CL-600-2D24 (Regional Jet Series 900) airplanes, and Model CL-600-2E25 (Regional Jet Series 1000) airplanes. The NPRM published in the *Federal Register* on September 12, 2022 (87 FR 55735). The NPRM was prompted by AD CF-2022-20, dated April 19, 2022, issued by Transport Canada, which is the aviation authority for Canada (referred to after this as the MCAI). The MCAI states that the pressure switch gauge assembly for the cargo bay fire extinguisher container has the potential to display an incorrect pressure under certain environmental conditions. The supplier attributed the root cause of the container pressure display error to the use of a room temperature vulcanizing (RTV) silicone. Both the HRD and LRD cargo bay fire extinguisher containers are affected. The airplane is intended to be operated at temperatures as low as -53.8 °C (-65 °F). However, testing has shown that at temperatures below -49.4 °C (-57 °F), the RTV silicone goes through a glass transition that causes locking of the discharge indication microswitch in a closed state (showing normal pressure) on 50 percent of the assemblies tested. After returning to above -35.0 °C (-31.5 °F) for more than 6 minutes, the pressure switch gauge assembly returns to normal operation. If the flightcrew does not receive an indication of low pressure and there is a fire in the cargo bay, reduced fire extinguisher container capacity below the level required to appropriately suppress a cargo fire could lead to an uncontrollable fire and loss of the airplane.

In the NPRM, the FAA proposed to require replacing affected HRD and LRD pressure switch gauge assemblies for the cargo bay fire extinguisher container.

You may examine the MCAI in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1154.

## **Discussion of Final Airworthiness Directive**

### **Comments**

The FAA received comments from Air Line Pilots Association, International, who supported the NPRM without change.

### **Conclusion**

This product has been approved by the aviation authority of another country and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI referenced above. The FAA reviewed the relevant data, considered the comments received, and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on this product. Except for minor editorial changes, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

### **Related Service Information under 1 CFR Part 51**

MHI RJ Aviation ULC has issued Service Bulletin 670BA-26-013, dated October 8, 2021. This service information describes procedures for replacing the HRD and LRD pressure switch gauge assemblies for cargo bay fire extinguisher containers part numbers (P/N) 473919-1, P/N 473920-1, and P/N 474901-1, manufactured prior to March 2020 as indicated on the identification plate. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

### **Costs of Compliance**

The FAA estimates that this AD affects 564 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

### Estimated costs for required actions

Labor cost	Parts cost	Cost per product	Cost on U.S. operators
4 work-hours X \$85 per hour = \$340	\$595	\$935	\$527,340

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some or all of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected operators.

### Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Will not affect intrastate aviation in Alaska, and

(3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **The Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

**2022-24-10 MHI RJ Aviation ULC (Type Certificate Previously Held by Bombardier, Inc.):** Amendment 39-22250; Docket No. FAA-2022-1154; Project Identifier MCAI-2022-00550-T.

#### **(a) Effective Date**

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to all MHI RJ Aviation ULC Model CL-600-2C10 (Regional Jet Series 700, 701 & 702) airplanes, Model CL-600-2C11 (Regional Jet Series 550) airplanes, Model CL-600-2D15 (Regional Jet Series 705) airplanes, Model CL-600-2D24

(Regional Jet Series 900) airplanes, and Model CL-600-2E25 (Regional Jet Series 1000) airplanes; certificated in any category.

**(d) Subject**

Air Transport Association (ATA) of America Code 26, Fire protection.

**(e) Unsafe Condition**

This AD was prompted by a report indicating that the pressure switch gauge assembly for the cargo bay fire extinguisher container has the potential to display an incorrect pressure under certain environmental conditions. The FAA is issuing this AD to address instances where the fire extinguisher container capacity is reduced below the level required to appropriately suppress a cargo fire, and the flightcrew does not receive an indication of low pressure, which, in the event of a fire in the cargo bay, could lead to an uncontrollable fire and loss of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Replacement**

Within 10 years after the effective date of this AD: Replace the high rate of discharge and low rate of discharge pressure switch gauge assemblies for any cargo bay fire extinguisher container having part number (P/N) 473919-1, P/N 473920-1, and P/N 474901-1, manufactured prior to March 2020 as indicated on the identification plate, with a serviceable part number, in accordance with the Accomplishment Instructions of MHI RJ Aviation ULC Service Bulletin 670BA-26-013, dated October 8, 2021.

**(h) Parts Installation Prohibition**

As of 10 years after the effective date of this AD, or before further flight after the replacement has been done in paragraph (g) of this AD, whichever occurs first, no person may install, on any airplane, a cargo bay fire extinguisher container having P/N 473919-1, P/N 473920-1, or P/N 474901-1, manufactured prior to March 2020 as

indicated on the identification plate, unless “CW SB Fire Extinguisher-26-1” is identified on the identification plate.

**(i) No Return of Part Requirement**

Although the Accomplishment Instructions of MHI RJ Aviation ULC Service Bulletin 670BA-26-013, dated October 8, 2021, specify to return the cargo fire extinguisher containers to the manufacturer, this AD does not include that requirement.

**(j) Additional AD Provisions**

The following provisions also apply to this AD:

*(1) Alternative Methods of Compliance (AMOCs):* The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

*(2) Contacting the Manufacturer:* For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada; or MHI RJ Aviation ULC’s Transport Canada Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

**(k) Additional Information**

(1) For related information, refer to Transport Canada AD CF-2022-20, dated April 19, 2022. This Transport Canada AD may be found in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1154.



(2) For more information about this AD, contact Gabriel Kim, Aerospace Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; email 9-avs-nyaco-cos@faa.gov.

**(I) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) MHI RJ Aviation ULC Service Bulletin 670BA-26-013, dated October 8, 2021.

(ii) [Reserved]

(3) For service information identified in this AD, contact MHI RJ Aviation Group, Customer Response Center, 3655 Ave. des Grandes-Tourelles, Suite 110, Boisbriand, Québec J7H 0E2 Canada; North America toll-free telephone 833-990-7272 or direct-dial telephone 450-990-7272; fax 514-855-8501; email thd.crj@mhirj.com; website mhirj.com.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fr.inspection@nara.gov, or go to: [www.archives.gov/federal-register/cfr/ibr-locations.html](http://www.archives.gov/federal-register/cfr/ibr-locations.html).

Issued on November 15, 2022.

Ross Landes, Deputy Director for Regulatory Operations,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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